

REMARKS

The above Amendments and these Remarks are submitted under 37 C.F.R. §1.111 in response to the Office Action mailed March 25, 2004.

Summary of the Examiner's Action and Applicants' Response

The Examiner stated that Claims 2-4, 6-8, 14, 16-18, 23-26, 28-30, 32-34, 40, 42-44, and 49-52 were objected to, but would be allowed if rewritten to include all the limitations of the base claim and any intervening claims. The Examiner objected to the drawings as not providing descriptive text labels. The Examiner has rejected Claims 1, 9-13, 19-22, 27, 35-39, and 45-48 under 35 U.S.C. 103(a) as being obvious based on Robins, et al. (U.S. Patent No. 6,430,184). FIGs. 1-3 have been amended. Claims 1-4, 6-14, 16-30, 32-40, and 42-52 are pending.

Response to Objections to the Drawings

The Examiner objected to the drawings as not providing descriptive text labels. In response, FIGs. 1-3 have been amended, as suggested by the Examiner. Applicants therefore respectfully request withdrawal of this objection.

Response to Rejection of Claims 1, 9-13, 19-22, 27, 35-39, and 45-48 under 35 U.S.C. §103

The Examiner has rejected Claims 1, 9-13, 19-22, 27, 35-39, and 45-48 under 35 U.S.C. 103(a) as being obvious based on Robins, et al. The Examiner stated that Robins, et al. does not explicitly teach a secondary memory being larger than a primary memory, as claimed in Claim 1 (and in the corresponding apparatus claim, Claim 27). The Examiner stated that it would have been obvious to one skilled in the art at the time of the invention to make the secondary memory larger than the primary memory because it is obvious to change the size, range, proportion, etc., of the elements of an invention. The Examiner also stated that having a larger secondary memory would increase the useful bandwidth of the RAMBUS memory, as suggested by Robins, et al. Applicants respectfully disagree.

The Examiner identified the primary memory as RAMBUS memory DRAM 1 in FIG. 40, and the secondary memory as RAMBUS DRAM 2 in FIG. 40. Applicants respectfully submit that Robins, et al. teaches that DRAM 1 and DRAM 2 are two banks of the "dual bank" organization of the RAMBUS memory. Robins, et al. further teaches organizing the buffers in DRAM 1 and DRAM 2 such that even data buffers are in one bank and odd data buffers are in the other.

Applicants respectfully submit that there is no teaching or suggestion in Robins, et al. of different relative sizes for the dual banks in the RAMBUS memory. Applicants respectfully submit there is no teaching or suggestion in Robins, et al. of a method of managing packet queues in a switch and corresponding apparatus having a limited primary memory and larger secondary memory, as claimed in Claim 1 (and in the corresponding apparatus claim, Claim 27). Moreover, Robins, et al. teaches organizing the buffers in DRAM 1 and DRAM 2 such that even data buffers are in one bank and odd data buffers are in the other, thus teaching away from different sized memories as claimed in Claim 1, (and in the corresponding apparatus claim, Claim 27).

As described in the specification, the present invention is designed to address the "need for a queue management system in packet switches enabling the internal memory and queues to co-operate with the external memory, without unnecessary blocking output ports serving well-behaved traffic". (Page 1, line 28-30). The data rate of the output link connected to the output port may be lower than the data rate of the incoming data stream, for example, if several input ports are sending packets to the same output port, collisions or pause messages to the output port. There is, therefore, a risk for overflow in the respective output port. (Page 3, lines 3-7). In order to prevent this, the primary memory (e.g., chip 1) co-operates with a larger secondary memory 7, as claimed in Claim 1 (and in the corresponding apparatus claim, Claim 27). (Page 3, lines 7-10). Applicants respectfully submits that Robins, et al. does not teach or suggest addressing this problem overcome by the present invention, as claimed in Claim 1 (and in the corresponding apparatus claim, Claim 27).

For the above reasons, Applicants respectfully submit that Claim 1, (and in the corresponding apparatus claim, Claim 27) are not obvious based on Robins, et al. Claims 9-13 and 19-22 depend directly or indirectly from Claim 1 and are respectfully submitted as not being obvious based on Robins, et al. for the same reasons as above for Claim 1. Claims 35-39 and 45-48 depend from Claim 27 and are respectfully submitted as not being obvious based on Robins, et al. for the same reasons as above for Claim 27.

CONCLUSION

For the above reasons, Applicants respectfully submit that all pending claims, Claims 1-4, 6-14, 16-30, 32-40, and 42-52 in the present application are in condition for allowance. Such allowance is respectfully solicited.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 13-0201 for any payment in connection with this response, including any fee for extension of time, which may be required. The Examiner is invited to call the undersigned if such action might expedite the prosecution of this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Donald L. Bartels", is written over a horizontal line.

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